ABSTRACT

A method for conditioning air for an enclosure in which a supply air stream is cooled with a refrigerant system containing a variable compressor by passing the air over a cooling coil to reduce the temperature thereof; the thus cooled supply air stream is then passed through a segment of a rotating desiccant wheel under conditions which increase its temperature and reduce its moisture content, and then delivered to the enclosure. The desiccant wheel is regenerated by heating a regeneration air stream with the condensing coil of the refrigerant system, and then passing the heated regeneration air stream through another segment of the rotating desiccant wheel. At least one condition of the supply air stream, the regeneration air stream, and/or the refrigerant system is sensed or monitored and the output of the compressor is controlled in response to the sensed condition.